

## Non-native vowel perception & production vs. orthographic interference

This paper aims to investigate how cross-linguistic similarity is expressed in non-native vowel perception and production and what role orthography may play in the patterns observed.

In the case of non-native vowel production, articulatory challenges may be less pervasive than in the case of consonants, so the role of other conflicting factors may come to the foreground. A candidate for explaining deviant productions is orthography, esp. when we consider formal setting learners, who heavily rely on written input.

We hypothesize that (1) the production results will be directly related to perception results, unless orthography interferes. Based on papers in Bassetti et al. (2015), especially Young-Scholten and Langer (2015), we hypothesize (2) that L2/L3 productions will follow L1 grapheme-to-phoneme correspondences, (3) less interference will occur where the L2/L3 correspondences clearly differ for the L1.

10 female L1 Polish, L2 English, L3 Norwegian formal setting learners, aged 20, performed an assimilation task in which they chose the closest Polish target vowel to the English or Norwegian stimulus they heard. In the production task they read sentences with embedded non-words in the three languages. The recordings were analyzed acoustically and six professional phoneticians judged the vowel productions in a forced choice decision task with isolated vowels.

Hypothesis (1) is confirmed by TAKK that is perceived and produced as /a/ and SYND that has similar production and (non-categorized) perception patterns. Hypothesis (2) is supported in the case of Norwegian FIN and English KIT that are both produced and perceived as /i:/ and /i/. /i/-like productions suggest that participants produced the vowel according to L1 grapheme-to-phoneme relations. Hypothesis (3) is supported in the case of RÅD that is perceived as /ɔ/, and produced as /ɔ/ and /ɔw/. An example of non-L1 grapheme to phoneme relations and new category formation are English GOOSE and Norwegian GUD. NOK is perceived as /ɔ:/, but there is a lot of variation in its production (probably due to confusion with BOK pronounced with /u:/). BOK /u:/, in turn, is a unique example of perception through the lens of orthography (despite the lack of any orthographic cues during the experiment), against the acoustic cues – it is perceived in 75% as /ɔ:/. The analysis of individual variation and statistical analyses are ongoing.

Perception and production generally express cross-linguistic similarity parallelly, but production performance, and occasionally perception results, can be modified by orthography.